



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Short, et al. Art Unit : Unknown
Serial No. : 10/601,319 Examiner : Unknown
Filed : June 20, 2003
Title : RECOMBINANT PHYTASES AND METHODS OF MAKING AND USING THEM

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

UNDER 37 CFR §1.97 and §1.98

Sir:

Enclosed for filing in the above-referenced patent application is a Form PTO-1449, being submitted prior to the first Office Action on the merits. Applicants respectfully request consideration of the remarks and references set forth herein.

The following documents are enclosed herewith:

- Form PTO-1449 newly filed, citing references from the parent application
- Postcard

CERTIFICATE OF MAILING BY FIRST CLASS MAIL

I hereby certify under 37 CFR §1.8(a) that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

JULY 25 2003
Date of Deposit

Susan Senoult
Signature

SUSAN SENOLT
Typed or Printed Name of Person Signing Certificate

REMARKS

The references cited on attached form PTO-1449 are being called to the attention of the Examiner. It is respectfully requested that the cited information be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

Under 35 USC 120, this application relies on the earlier filing date of application serial number 09/866,379 filed on May 24, 2001. Attached please find Form 1449 newly filed listing the references cited by the Application for the parent case.

A copy of this statement is being submitted because Applicants wish the information to appear among the "references cited" on any patent to issue therefrom (MPEP §609). In accordance with 37 CFR §1.98(d), copies of the references cited in the parent application are not included in this submission (MPEP §609A(2)); however, for the Examiner's convenience, if requested, Applicants will be pleased to provide a copy of any or all of the references cited therein.

As provided for by 37 CFR §1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicants believe that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 06-1050. If necessary, please deduct any necessary additional fees from, or credit any overpayment to, the above-noted Deposit Account.

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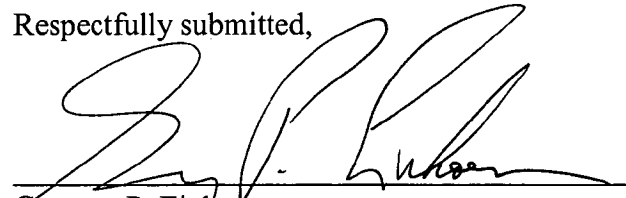
Attorney's Docket No.: 09010-029011

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 858 678 5070.

Respectfully submitted,

Date:

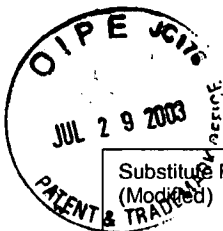
July 25, 2003



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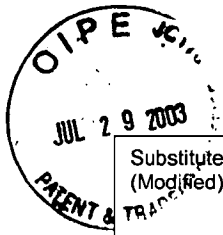
Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 09010-029011	Application No. 10/601,319
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Short, et al.	
		Filing Date June 20, 2003	Group Art Unit Unknown

U.S. Patent Documents							
Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,366,736	Nov 22, 1994	Edwards, Jr.			
	AB	5,436,156	July 25, 1995	Van Gorcom et al.			
	AC	5,593,963	Jan 14, 1997	Van Ooijen et al.			
	AD	5,830,696	Nov 3, 1998	Short			
	AE	5,939,303	Aug 17, 1999	Cheng, et al.			
	AF	6,190,897	Feb 20, 2001	Kretz			
	AG	5,284,933	Feb 8, 1994	Dobeli et al.			
	AH						
	AI						
	AJ						
	AK						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AL	WO 99/08539	Feb 25, 1999	PCT				
	AM	0897985A2	Feb 24, 1999	EP				
	AN	0282042B1	June 8, 1994	EP				
	AO							
	AP							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AQ	Henrik Brinch-Pedersen, Annette Olesen, Soren K. Rasmussen & Preben B. Holm, "Generation of Transgenic Wheat (<i>Triticum aestivum</i> L.) for Constitutive Accumulation of an <i>Aspergillus</i> Phytase", 2000, <u>Molecular Breeding</u> , pp. 195-206
	AR	Janie Dassa, Christian Marck, and Paul L. Boquet, "The Complete Nucleotide Sequence of the <i>Escherichia coli</i> Gene <i>appA</i> Reveals Significant Homology between pH 2.5 Acid Phosphatase and Glucose-1-Phosphatase", September, 1990, <u>Journal of Bacteriology</u> , Vol 172, No. 9, pp. 5497-5500
	AS	J. Dvorakova, "Phytase: Sources, Preparation and Exploitation", 1998, <u>Folia Microbiol</u> , Vol. 43(4), pp. 323-338

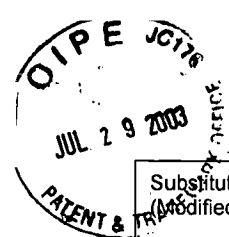
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EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	



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	AT	Lori Giver, Anne Gershenson, Per-Ola Freskgard, and Frances H. Arnold, "Directed Evolution of a Thermostable Esterase", October, 1998, <u>National Academy of Sciences</u> , Vol. 95, pp. 12809-12813
	AU	R. Greiner, U. Konietzny, and Kl.-D. Jany, "Purification and Characterization of Two Phytases from <i>Escherichia coli</i> ", May 15, 1993, <u>Archives of Biochemistry and Biophysics</u> , Vol. 303, No. 1, pp. 107-113
	AV	M. Lehmann, L. Pasamontes, s. F. Lassen, M. Wyss, "The Consensus Concept for Thermostability Engineering of Proteins", 2000, <u>Biochimica et Biophysica Acta</u> , Vol. 1543, pp. 408-415
	AW	Lutz Jermutus, Michel Tessier, Luis Pasamontes, Adolphus P.G.M. van Loon, and Martin Lehmann, "Structure-based Chimeric Enzymes as an Alternative to Directed Enzyme Evolution: Phytase as a Test Case", 2001, <u>Journal of Biotechnology</u> Vol. 85, pp. 15-24
	AX	William R. Pearson and David J. Lipman, "Improved Tools for Biological Sequence Comparison", April 1988, <u>National Academy of Sciences</u> , Vol. 85, pp. 2444-2448
	AY	Jan Pen, Theo C. Verwoerd, Peter A. vanParidon, Rob F. Beudeker, Peter J.M. van den Elzen, Kees Geerse, Jan D. van der Klis, Hans A. J. Versteegh, Albert J.J. van Ooyen and Andre' Hoekema, "Phytase-containing Transgenic Seeds as a Novel Feed Additive for Improved Phosphorus Utilization", July, 1993, <u>Bio/Technology</u> Vol. 11, pp. 79-82
	AZ	Eric Rodriguez, Yanming Han, and Xin Gen Lei, "Cloning, Sequencing, and Expression of an <i>Escherichia coli</i> Acid Phosphatase/Phytase Gene (appA2) Isolated from Pig Colon", 1999, <u>Biochemical and Biophysical Research Communications</u> , Vol. 257, pp. 117-123
	AAA	J. Rozas and R. Rozas, "DnaSP, DNA Sequence Polymorphism: An Interactive Program for Estimating Population Genetics Parameters from DNA Sequence Data", 1995, <u>Cabios</u> , Vol. 11 No. 6, pp. 61-625
	ABB	Andrea Tomschy, Michel Tessier, Markus Wyss, Roland Brugger, Clemens Broger, Line Schnoebelen, Adolphus P.G.M. van Loon, and Luis Pasamontes, "Optimization of the Catalytic Properties of <i>Aspergillus-fumigatus</i> Phytase Based on the Three-dimensional Structure", 2000, <u>Protein Science</u> , pp. 1304-1311
	ACC	T. C. Verwoerd, A. Hoekema, P. A. van Paridon, A.J.J. van Ooyen, & J. Pen, "Phytase-enriched Transgenic Seeds as a Novel Feed Additive", 1993, <u>Med. Fac. Landbouww. Univ. Gent</u> . No. 58/4a, pp. 1719-1721
	ADD	Costantino Vetriani, Dennis L. Maeder, Nicola tolliday, Kitty S.-P. Yip, Timothy J. Stillman, K. Linda Britton, David W. Rice, Horst H. Klump, and Frank T. Robb, "Protein Thermostability Above 100°C: A Key Role for Ionic Interactions", October, 1998, <u>National Academy of Sciences</u> , Vol. 95, pp. 12300-12305
	AEE	Gunnar von Heijne, A New Method for Predicting Signal Sequence Cleavage Sites", 1986, <u>Research Group for Theoretical Biophysics</u> , pp. 4683-4690
	AFF	Markus Wyss, Roland Brugger, Alexandra Kronenberger, Roland Remy, Rachel Fimbel, Gottfried Oesterheld, Martin Lehmann, and Adolphus P.G.M. van Loon, February, 1999, <u>Applied and Environmental Microbiology</u> , Vol. 65, No. 2, pp. 367-373
	AGG	Golovan et al., Characterization and overproduction of the <i>Escherichia coli</i> appA encoded bifunctional enzyme that exhibits both phytase and acid phosphatase activities", <u>Canadian Journal of Microbiology</u> , Vol. 46, No. 1, pp. 59-71, January, 2000
	AHH	Altschul, et al., "Basic Local Alignment Search Tool", <u>J. Mol. Bio.</u> , Vol. 215, pp. 403-410, 1990

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Other Documents (include Author, Title, Date, and Place of Publication)		
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	AII	Database accession No. AR130956
	AJJ	Database accession No. AAX26540
	AKK	Database accession No. P07102
	ALL	Database accession No. A02249
	AMM	Bork, "Powers and Pitfalls in Sequence Analysis: The 70% Hurdle", <u>Genome Research</u> , Vol. 10, pp. 398-400, 2000
	ANN	Broun, et al., "Catalytic Plasticity of Fatty Acid Modification Enzymes Underlying Chemical Diversity of Plant Lipids", <u>Science</u> , Vol. 282, pp. 1315-1317, 13 November 1998
	AOO	Van de Loo, et al., "An oleate 12-hydroxylase from Ricinus communis L. is a fatty acyl desaturase homolog", <u>Proc. Natl. Acad. Sci.</u> , Vol. 2, pp. 6743-6747, 1995
	APP	Seffernick, et al., "Melamine Deaminase and Atrazine Chlorohydrolase: 98 percent Identical but Functionally Different", <u>Journal of Bacteriology</u> , Vol. 183, No. 8; pp. 2405-1410, April, 2001
	AQQ	Arnold, "Enzyme engineering reaches the boiling point", <u>Proc. Natl. Acad. Sci.</u> , pp. 2035-2036, March 1998
	ARR	Lehmann, et al., "Exchanging the active site between phytases for altering the functional properties of the enzyme", <u>Protein Science</u> , pp. 1866-1872, 2000
	ASS	Lehmann, et al, "From DNA sequence to improved functionality: using protein sequence comparisons to rapidly design a thermostable consensus phytase", <u>Protein Engineering</u> , Vol. 13, No. 1, pp. 49-57, 2000
	ATT	

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